

WHAT IS CLAIMED IS:

- 1 1. A transgenic mammal, the genetic composition of which comprises:
2 a nucleic acid that includes (1) a coding sequence that encodes an allergen and (2) a
3 heterologous promoter operably linked to the coding sequence, wherein the heterologous
4 promoter directs expression of the allergen in a mammary cell of the animal or a female
5 progeny thereof.
- 1 2. The transgenic mammal of claim 1, wherein the allergen is of a dust mite allergen.
- 1 3. The transgenic mammal of claim 2 wherein the dust mite is *Dermatophagoides*
2 *pteronyssinus* or *Dermatophagoides farinae*.
- 1 4. The transgenic mammal of claim 3, wherein the allergen comprises a polypeptide
2 having an amino acid sequence at least 70% identical to SEQ ID NO:1, 2, or 3.
- 1 5. The transgenic mammal of claim 4, wherein the allergen comprises a polypeptide
2 having an amino acid sequence that is identical to SEQ ID NO:1, 2, or 3.
- 1 6. The transgenic mammal of claim 1, wherein the promoter is a promoter for a
2 casein or lactalbumin.
- 1 7. The transgenic mammal of claim 7, wherein the promoter is α -lactalbumin
2 promoter.
- 1 8. The transgenic mammal of claim 1, wherein the mammal is a cow, goat, or sheep.
- 1 9. A milk composition comprising:
2 a heterologous, non-milk allergen; and
3 a casein.
- 1 10. The milk composition of claim 9, where the allergen is of an insect.

1 11. The milk composition of claim 10, wherein the allergen is of a dust mite.

1 12. The milk composition of claim 11, wherein the dust mite is
2 *Dermatophagoides pteronyssinus* or *Dermatophagoides farinae*.

1 13. The milk composition of claim 12, wherein the allergen is Der p 5, Der p 1, or
2 Der p 2.

1 14. The milk composition of claim 9, wherein the casein is bovine or caprine.

1 15. The milk composition of claim 9 wherein the composition is dried.

1 16. A method of treatment comprising:
2 administering the milk of claim 9 to a subject in a sufficient amount to reduce
3 airway inflammation and hyperactivity in the subject.

1 17. A method of treatment comprising:
2 administering the milk of claim 11 to a subject in a sufficient amount to
3 reduce airway inflammation and hyperactivity in the subject.

1 18. A method of treatment comprising:
2 administering the milk of claim 12 to a subject in a sufficient amount to
3 reduce airway inflammation and hyperactivity in the subject.

1 19. A method of treatment comprising:
2 administering the milk of claim 13 to a subject in a sufficient amount to
3 reduce airway inflammation and hyperactivity in the subject.

1 20. A method of decreasing the production of IgE in a subject exposed to an allergen,
2 the method comprising
3 administering to a subject the milk of claim 9, wherein the allergen is present in a
4 sufficient quantity to induce in the subject tolerance to the allergen, the tolerance including

5 suppression of allergen-specific IgE production in the subject upon subsequent exposure to
6 the allergen.

1 21. A nucleic acid comprising:

2 (1) a coding sequence that encodes an allergen; and

3 (2) a heterologous promoter operably linked to the coding sequence wherein
4 the heterologous promoter directs expression of the allergen in a mammary cell.

1 22. The nucleic acid of claim 21, wherein the allergen is of a dust mite allergen.

1 23. The nucleic acid of claim 22, wherein the dust mite is *Dermatophagoides*
2 *pteronyssinus* or *Dermatophagoides farinae*.

1 24. The nucleic acid of claim 23, wherein the polypeptide has an amino acid
2 sequence at least 70% identical to SEQ ID NO:1.

1 25. The nucleic acid of claim 23, wherein the allergen comprises a polypeptide
2 having an amino acid sequence that is identical to SEQ ID NO:1, 2, or 3.

1 26. The nucleic acid of claim 22 wherein the promoter is a promoter for a casein or
2 lactalbumin.

1 27. The nucleic acid of claim of claim 28 wherein the promoter is α -lactalbumin
2 promoter.

1 28. A mammalian germ cell of the transgenic mammal of claim 1.